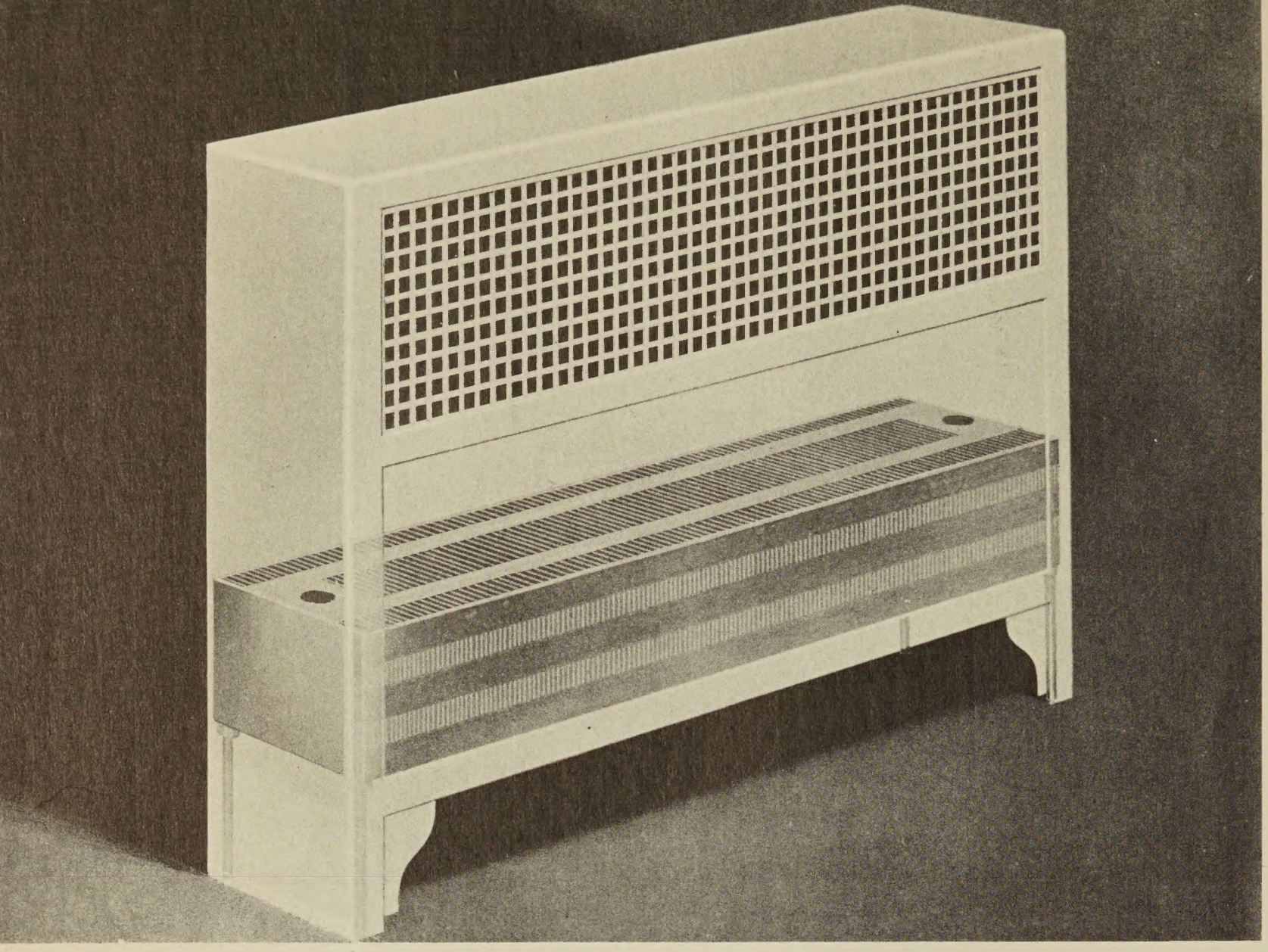
CAPITOL *Fincast* RADIATORS



THE CAPITOL *Fincast* RADIATOR

THE ONE PIECE RADIATOR BUILT WITHOUT JOINTS

A new industry was born in the middle of the last Century when the practice of heating buildings with steam or hot water began.

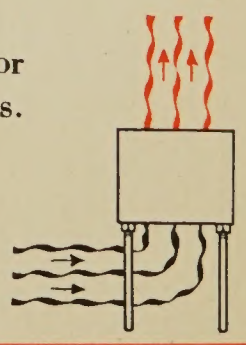
The first radiators were crudely made from lengths of iron pipe.

But with the advent of radiators made from cast iron, buildings of all types could be heated practically and economically. The first radiators were large and bulky. With continuous refinement radiator shapes became more graceful, beauty supplanted bulk.

Then came the practice of concealing radiators within the walls of the room. Radiators of large capacity and small size were needed.

All of these many radiators possessed one common characteristic—they all were made with JOINTS. Joints between iron pipes, joints between sections or joints between tubes and fins. In all cases these joints must remain tight to prevent leakage or a reduction of heat transfer.

With the introduction of the Fincast Radiator a revolutionary event occurred. A radiator was built *without joints*. The Fincast Radiator is cast in one piece, of cast iron, without joints.



UNITED STATES RADIATOR CORPORATION

DETROIT, MICHIGAN

THE *Fincast* RADIATOR • *Made of cast iron*

There are many reasons for the widespread use of cast iron in the construction of radiators.

Cast iron can be molded into the necessary shapes for the greatest efficiency. Cast iron, as a metal, has certain surface characteristics which make for maximum emission of heat from the surface of the radiator to the air flowing over and through it.

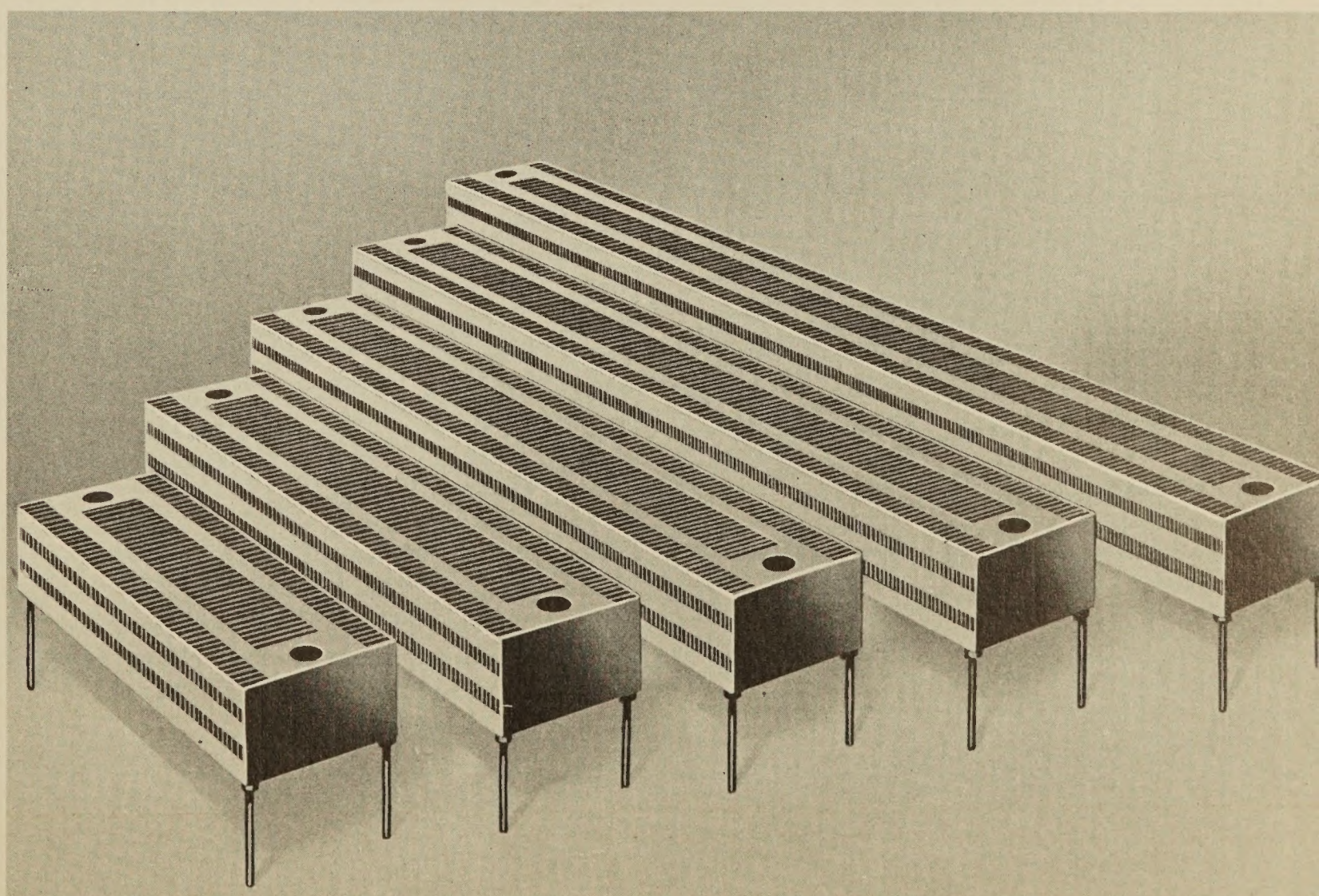
In the Fincast Radiator all the many advantages of cast iron construction are combined with extreme compactness.

To accomplish this, new foundry methods were created and new metallurgical practices employed.

The Capitol Fincast Radiator is furnished in four depths. 3½, 5⅜, 7¼ and 10⅝ inches. The lengths are from 18 to 63 inches, in steps of five inches. The height of all radiators is 4½ inches.

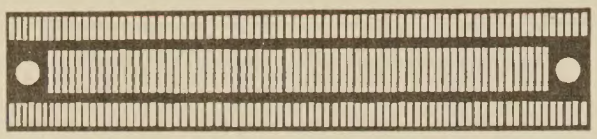
The 3½ and 5⅜ inch depths of Fincast Radiators are made with one centrally located fluid chamber. The 7¼ and 10⅝ inch depths have two proportionally spaced, interconnected fluid chambers. The fluid chamber, ½ inch wide and 4 inches high, is approximately as high as the radiator. Integral with it are many cast iron fins, which are cast together at their vertical edges forming the outer side walls of the radiator. Thus are formed many unobstructed air passages through the radiator, bounded on the inner side by the wall of the fluid chamber and on the outer side by the wall of the radiator.

A group of No. 7 Depth Fincast Radiators is illustrated below.



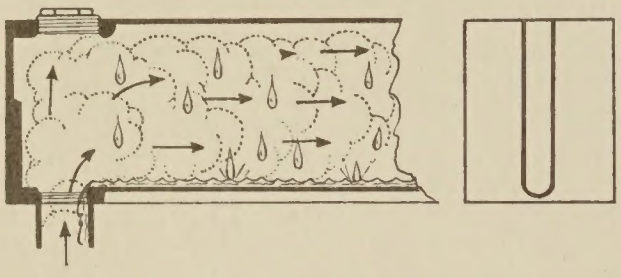
Fincast SUPERIORITY

ALL CAST IRON—NO JOINTS, NIPPLES, FERRULES, WELDS



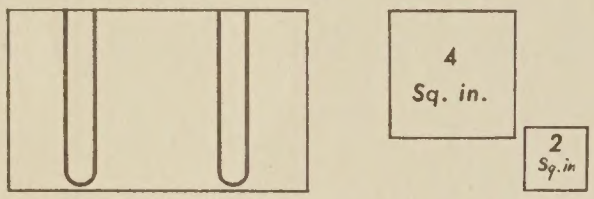
Capitol Fincast Radiators are unique in that they are *made without joints*. Each Fincast Radiator is one homogeneous casting. One Unit. One Piece. All of Cast Iron. Nothing to wear out. No parts to corrode. Long Life.

LARGE FLUID CHAMBERS



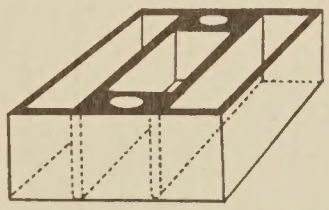
An important feature in the Fincast Radiator. The fluid chamber in the Fincast Radiator is ½-inch wide and four inches high. Heat is transferred direct from the very top to bottom of fins. There is no interference between steam and condensation. No waterlogging. Ample amount of the heating medium within the radiator at all times insures equal output at both supply and return ends.

AMPLE INTERNAL CROSS SECTIONAL AREA



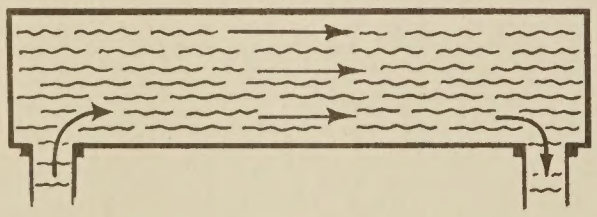
The ample volume of the fluid chamber is illustrated by a comparison between its cross sectional area and that of the largest supply pipe that may be used with it in actual practice. In the example illustrated the total cross sectional area of the fluid chambers of the No. 7 Depth radiator is 4 sq. in. against 2 sq. in. for 1½" supply pipe.

STRONG BOX LIKE CONSTRUCTION



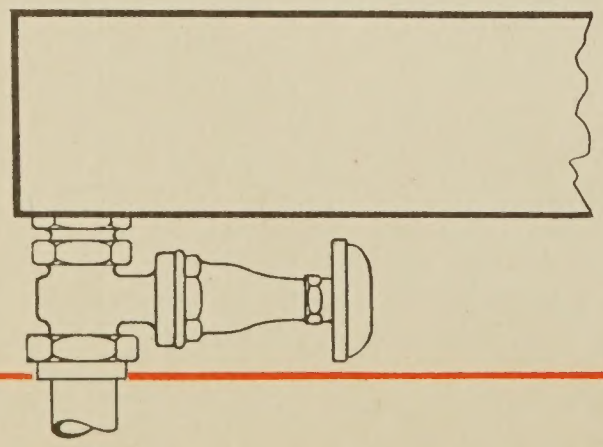
The Fincast Radiator is strong and rigid, which enables it to endure much abuse on the job during construction. Its box like construction is illustrated at the left. Note that there are no joints to become loosened through rough handling. No possibility of fin separating from fluid chamber with the resultant loss in capacity.

FULLY SUITED TO HOT WATER SYSTEMS



It will be noted that the fluid chamber of the Fincast Radiator approximates the full height of the fins. This means that each fin transfers its heat directly from the hot water within the radiator. Again the full area of the large fluid chamber insures that ample heating medium is within the radiator at all times with minimum resistance to water circulation.

SPECIAL FINCAST RADIATOR SUPPLY VALVE



For beauty of appearance, years of trouble free service, convenience to owner and as a time saver to the Heating Contractor, the new Fincast Radiator Valve stands alone. It is a double union packless gate valve which is installed directly to the radiator. It makes the use of elbows and pipe fittings unnecessary.

CAPITOL *Enclosures*

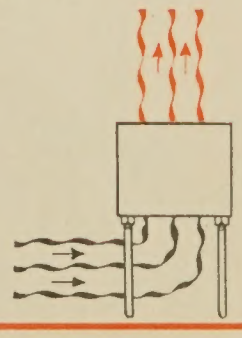
While Capitol Fincast Radiators do their work quietly and efficiently concealed within the walls of the rooms, the enclosures are the products which are visible to the occupants.

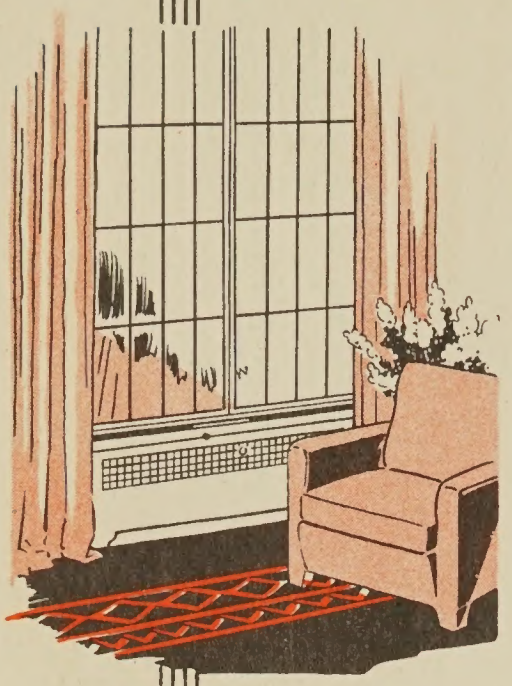
They should, therefore, be pleasing in appearance and harmonize well with the decorative scheme of the room.

Capitol Enclosures are eminently fitted for this task. They are well and carefully made. Manufactured accurately to catalog dimensions their installation is easily accomplished.

Many styles and sizes are available. The Enclosures may be completely or partially set within the walls. Metal or Plaster Fronts may be used. Or the Enclosures may be set in the room against the wall. Every type of enclosure may be had with a damper to control the flow of heated air into the room. Humidifier Pans for moistening the air are available if desired. These types are described in detail on page eight.

In the illustration above the Style R Enclosure is used. The grained finish harmonizes with the woodwork of the room.



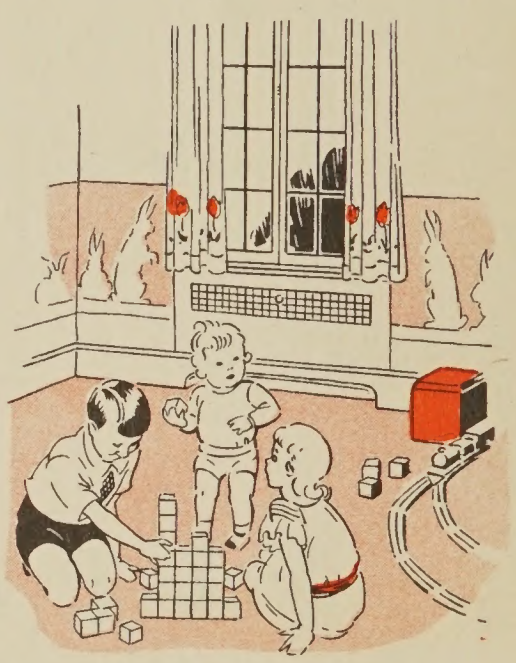


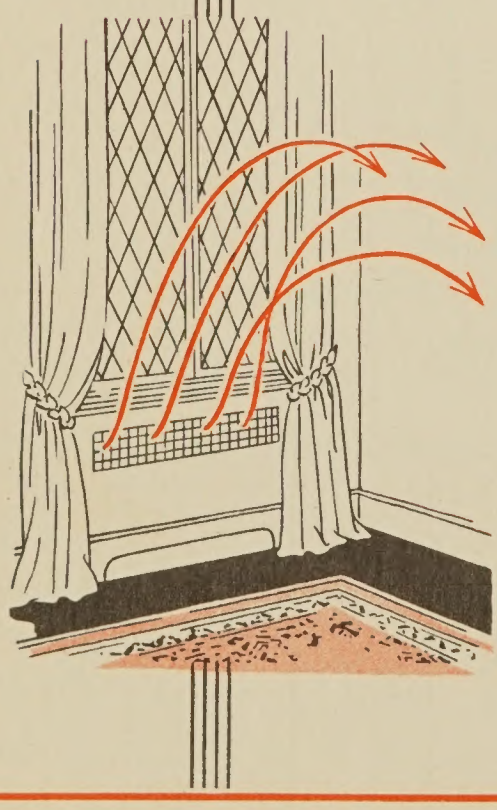
Beauty

Capitol Enclosures harmonize fully with modern interior decoration. The Grille is of simple design, effective yet unobtrusive. Often the location of a Fincast Radiator and Enclosure under a window enhances the whole decorative scheme by completing the panel effect of the window.

Healthful Heat

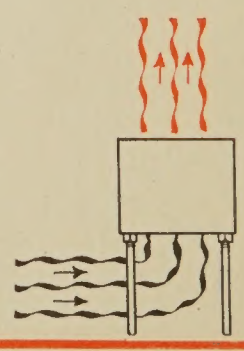
Rooms heated with Capitol Fincast Radiators are healthy places for children to play in. Capitol Enclosures may be equipped with Humidifier Pans if desired. Thus moisture is added to the heated air.





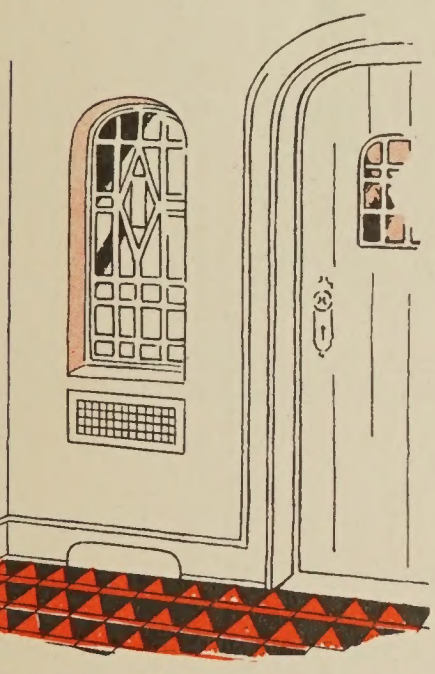
Comfortable Heat

Due to the design of the Enclosures the heated air is projected mildly into the room in such a way as to more nearly equalize the temperature differences at various heights within the room. With the mild circulation thus created the ceiling temperatures are not excessive and the floor temperatures are warmer.



Instant Control

Capitol Enclosures may be equipped with dampers which make instant regulation of the amount of heat flowing into the room possible. It may be desired to heat only the living rooms at certain periods of the day. All that is necessary is to close the dampers in the Enclosures in those rooms where heat is not desired. Bed Rooms can be quickly heated on cold mornings by opening the Enclosure dampers.

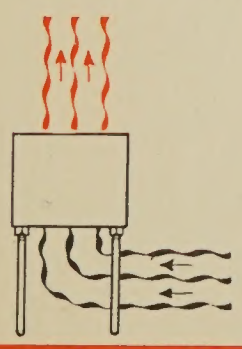


Compactness

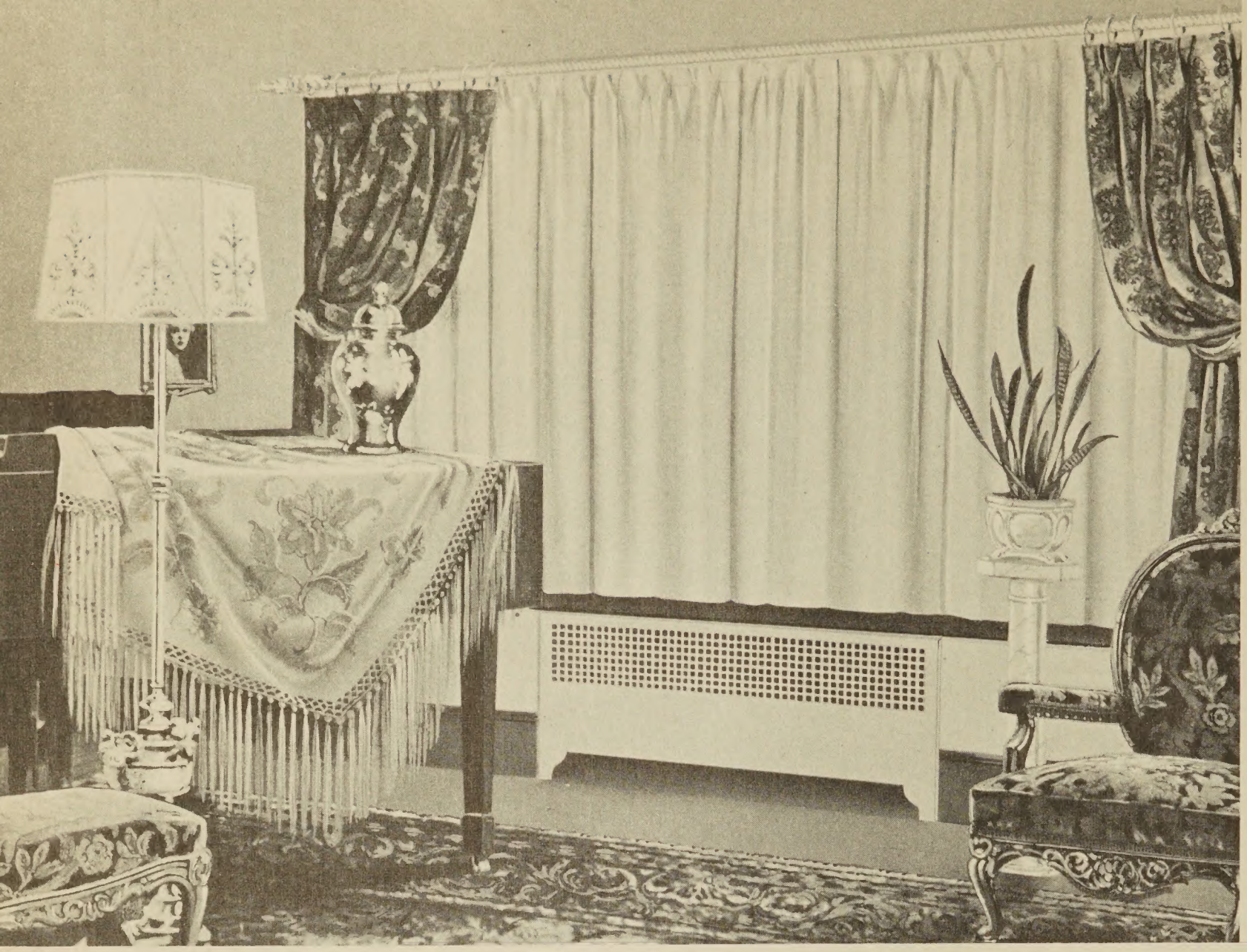
Comparatively small space is necessary for Capitol Fincast Radiators due to their compactness and large heating capacity per lineal inch. It is, therefore, possible to place the radiator where desired.

Practical Heat

Floor space is usually at a premium both in homes and offices. The concealing of the Fincast Radiator within the walls of the room makes space available that otherwise could not be used for the locating of furniture or office desks.



Cast iron is known to possess unparalleled long life, which insures many years of service from Fincast Radiators. There is nothing on the Fincast Radiator to wear out!



DESCRIPTION OF *Enclosures*

STYLE R • All metal enclosure for partial or complete recessing. Has removable front. Can be equipped with humidifier pan.

STYLE C • All metal incasement for free standing installations not recessed. Can be equipped with humidifier pan.

STYLE H • Metal Panel Front with beveled edges for complete recessing. Front extends to base board.

STYLE HA • Metal Panel Front with beveled edges for complete recessing. Extends to floor with metal arch inlet. Note the illustration above.

STYLE HB • Same as STYLE HA except with liner box. For use where Metal Front is to be installed flush with the plaster line.

STYLE L • Metal Outlet Grille and frame only, for Plaster.

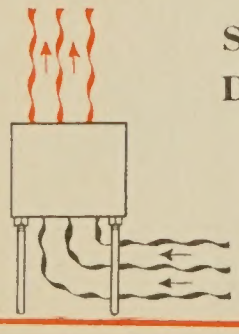
STYLE LP • Plaster Front for complete recessing consisting of Outlet Grille and Frame and Plaster Panel to inlet.

STYLE LPG • Same as STYLE LP but including Grille Inlet Panel at bottom.

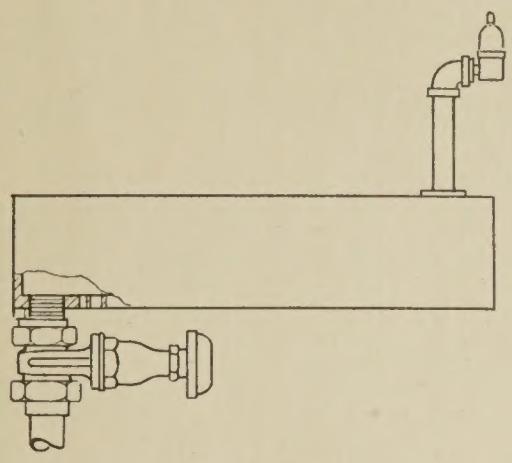
STYLE LB • Enclosure for Plaster. For complete or partial recessing. Consists of Outlet Grille Panel and Frame, Plaster Panel to inlet and Liner Box.

STLEY LBG • Same as STYLE LB but including Grille Inlet Panel at bottom.

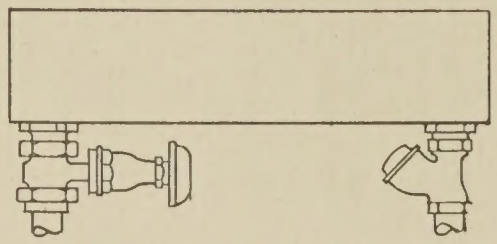
DAMPERS • All the above fronts and enclosures can be equipped with positive control dampers.



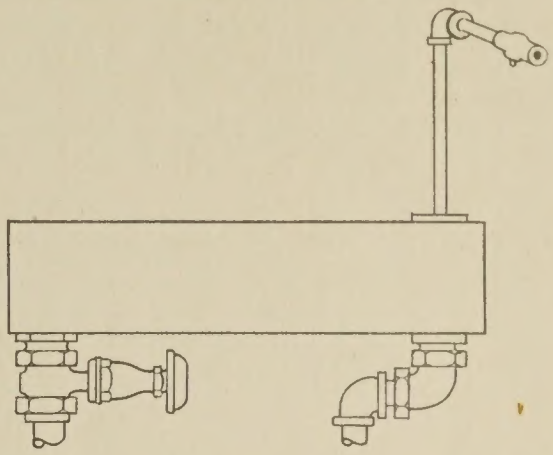
TYPICAL PIPING CONNECTIONS



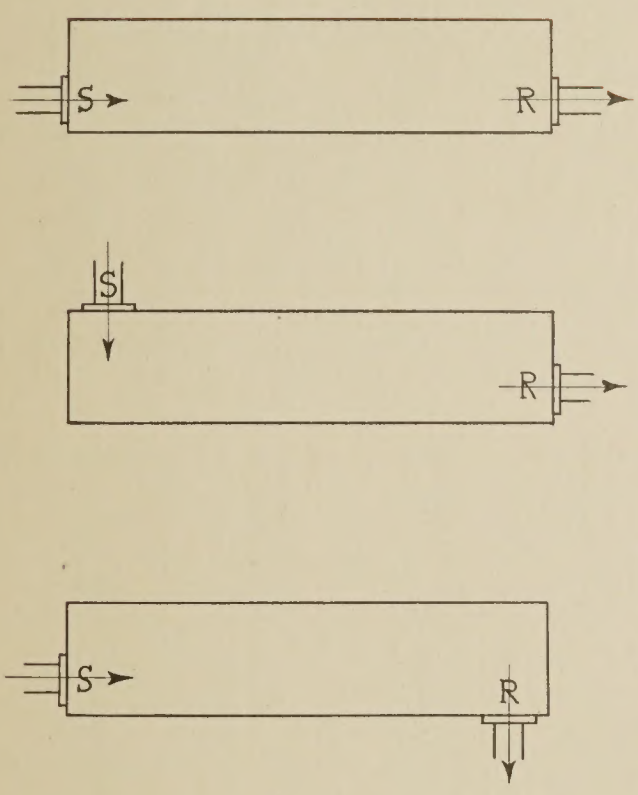
One Pipe, Steam.

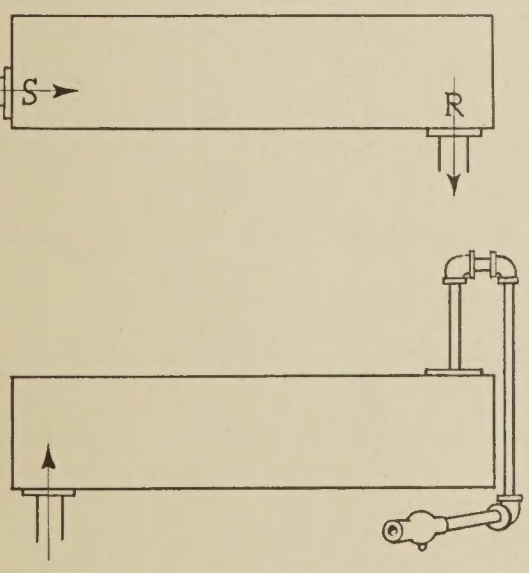


Vapor System.



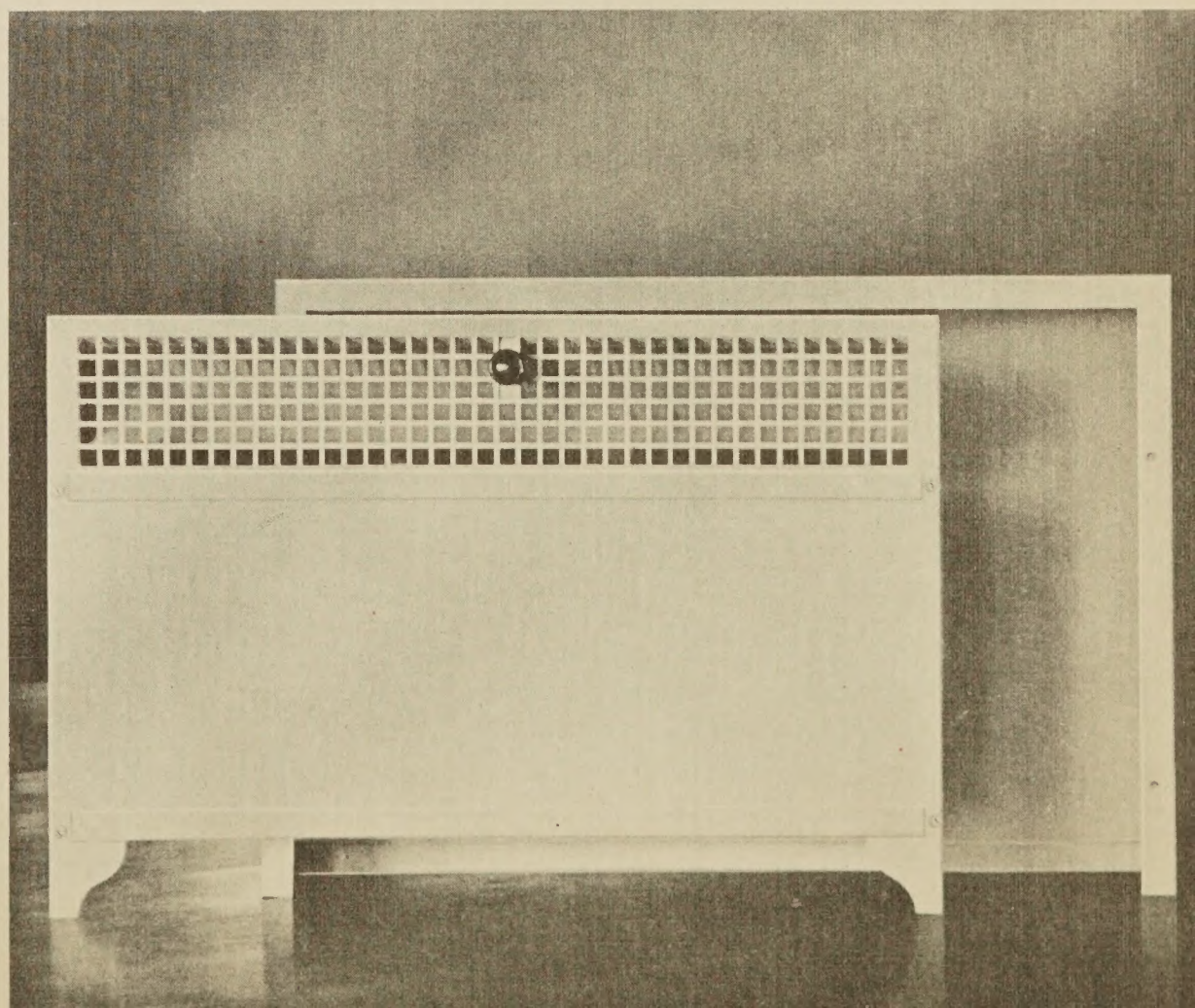
Hot Water System.





Another method of venting on hot water systems.

Style R Enclosure showing removable front with damper.



STEAM OR WATER RATINGS

Front Outlet Grille—Steam, 240 B.t.u.; Water, 150 B.t.u.

No. 3 DEPTH

Stack Height Inches	Radiator Length Inches 18	Radiator Length Inches 23	Radiator Length Inches 28	Radiator Length Inches 33	Radiator Length Inches 38	Radiator Length Inches 43	Radiator Length Inches 48	Radiator Length Inches 53	Radiator Length Inches 58	Radiator Length Inches 63
14″	10.2	13.1	15.9	18.7	21.6	24.4	27.3	30.1	32.9	35.8
17″	11.3	14.5	17.6	20.8	23.9	27.0	30.2	33.3	36.5	39.6
20″	12.2	15.6	19.0	22.4	25.8	29.2	32.6	36.0	39.4	42.8
24″	13.0	16.7	20.3	24.0	27.5	31.1	34.8	38.4	42.0	45.6
30″	13.9	17.7	21.6	25.4	29.3	33.1	37.0	40.8	44.7	48.5
36″	14.5	18.6	22.6	26.7	30.7	34.7	38.8	42.8	46.9	50.9
42″	15.0	19.2	23.3	27.5	31.7	35.8	40.0	44.1	48.3	52.5
48″	15.5	19.8	24.1	28.4	32.8	37.1	41.4	45.7	50.0	54.3
54″	15.9	20.3	24.7	29.1	33.6	38.0	42.4	46.8	51.2	55.6
60″	16.3	20.8	25.4	29.9	34.4	39.0	43.5	48.0	52.5	57.1

No. 5 DEPTH

14″	14.2	18.2	22.1	26.1	30.0	34.0	37.9	41.9	45.8	49.8
17″	15.9	20.3	24.7	29.1	33.6	38.0	42.4	46.8	51.2	55.6
20″	17.4	22.2	27.1	31.9	36.7	41.6	46.4	51.3	56.1	60.9
24″	19.4	24.7	30.1	35.5	40.9	46.3	51.6	57.0	62.4	67.8
30″	21.5	27.4	33.4	39.4	45.3	51.3	57.3	63.2	69.2	75.2
36″	22.9	29.2	35.6	41.9	48.3	54.6	61.0	67.3	73.7	80.0
42″	24.0	30.6	37.3	43.9	50.6	57.2	63.9	70.5	77.2	83.9
48″	24.9	31.9	38.8	45.7	52.7	59.6	66.5	73.5	80.4	87.3
54″	25.7	32.9	40.0	47.2	54.3	61.4	68.6	75.7	82.9	90.0
60″	26.4	33.7	41.0	48.3	55.7	63.0	70.3	77.6	85.0	92.3

No. 7 DEPTH

14″	18.0	23.0	28.0	33.0	38.0	43.0	48.0	53.0	58.0	63.0
17″	20.9	26.7	32.5	38.3	44.1	49.9	55.7	61.5	67.3	73.1
20″	23.0	29.4	35.8	42.2	48.6	55.0	61.4	67.8	74.2	80.6
24″	25.0	32.0	38.9	45.9	52.8	59.8	66.7	73.7	80.6	87.6
30″	27.0	34.5	41.9	49.4	56.9	64.4	71.9	79.4	86.9	94.4
36″	28.3	36.2	44.1	51.9	59.8	67.7	75.6	83.4	91.3	99.2
42″	29.5	37.7	45.9	54.1	62.3	70.5	78.7	86.9	95.1	103.3
48″	30.5	39.0	47.4	55.9	64.4	72.8	81.3	89.8	98.3	106.7
54″	31.4	40.1	48.8	57.5	66.2	74.9	83.6	92.3	101.0	109.7
60″	32.2	41.1	50.1	59.0	68.0	76.9	85.9	94.8	103.8	112.7

No. 10 DEPTH

14″	22.9	29.2	35.6	41.9	48.3	54.6	61.0	67.3	73.7	80.0
17″	27.0	34.5	41.9	49.4	56.9	64.4	71.9	79.4	86.9	94.4
20″	30.0	38.3	46.6	55.0	63.3	71.6	80.0	88.3	96.6	105.0
24″	32.9	42.1	51.2	60.4	69.5	78.6	87.8	96.9	106.1	115.2
30″	35.9	45.8	55.8	65.8	75.7	85.7	95.7	105.6	115.6	125.6
36″	38.1	48.7	59.3	69.9	80.4	91.0	101.6	112.2	122.8	133.4
42″	39.8	50.8	61.9	72.9	84.0	95.0	106.1	117.1	128.2	139.2
48″	41.2	52.7	64.1	75.6	87.1	98.5	110.0	121.4	132.9	144.3
54″	42.6	54.4	66.2	78.0	89.8	101.7	113.5	125.3	137.1	148.9
60″	43.7	55.9	68.0	80.2	92.3	104.4	116.6	128.7	140.9	153.0

WHEN TOP OUTLET GRILLES ARE USED, THE ABOVE RATINGS SHOULD BE INCREASED AS FOLLOWS:

14″ Stack Height multiply above ratings by 1.16
17″ Stack Height multiply above ratings by 1.12
20″ Stack Height multiply above ratings by 1.09
24″ Stack Height multiply above ratings by 1.07

RECESS DIMENSIONS

LENGTHS

Radiator Length, Inches	18	23	28	33	38	43	48	53	58	63
Recess Length—Styles R, LB, HB	19½	24½	29½	34½	39½	44½	49½	54½	59½	64½
Recess Length—Styles H, HA, L, LP	19	24	29	34	39	44	49	54	59	64

HEIGHTS*

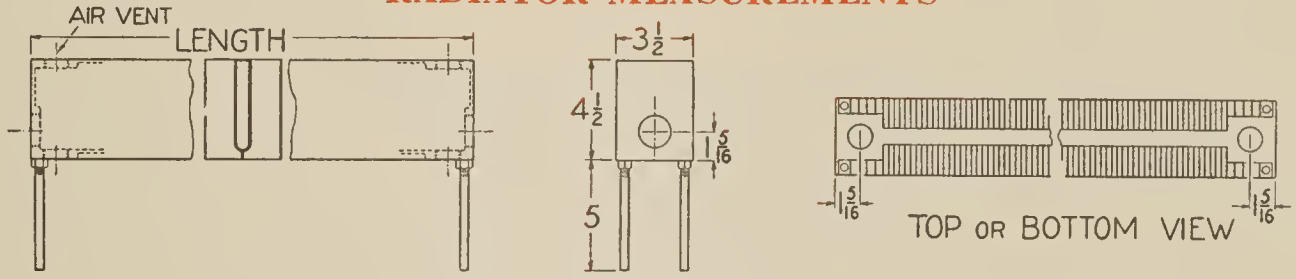
Stack Height, Inches	14	17	20	24	30	36	42	48	54	60
Recess Height—Styles R, LB	20¼	23¼	26¼	30¼	36¼①	42¼	48¼	54¼	60¼	66¼
Recess Height—Styles H, HA, HB, LP	19½	22½	25½	29½②	35½	41½	47½	53½	59½	65½

* All height dimensions are from finish floor.
① Maximum Height—Style R.
② Maximum Height—Styles H, HA and HB

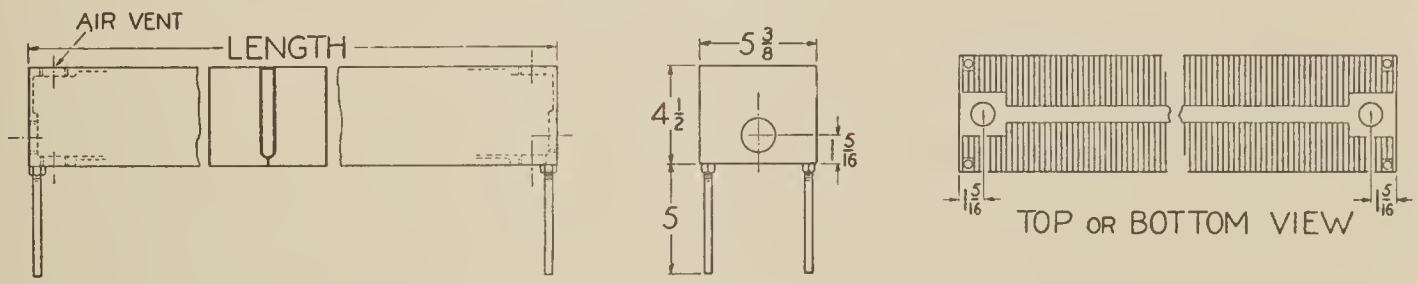
DEPTHS*

Radiator Depth Number	3	5	7	10
Recess Depth—Style R	4⅛	6	7⅞	11¼
Recess Depth—Styles H, HA	3¾	5⅝	7½	10⅞
Recess Depth—Styles L, LP, LB	4¾	6⅝	8½	11⅞
Recess Depth—Style HB	3⅞	5¾	7⅝	11
* All depth dimensions are from Finish Plaster Line.				

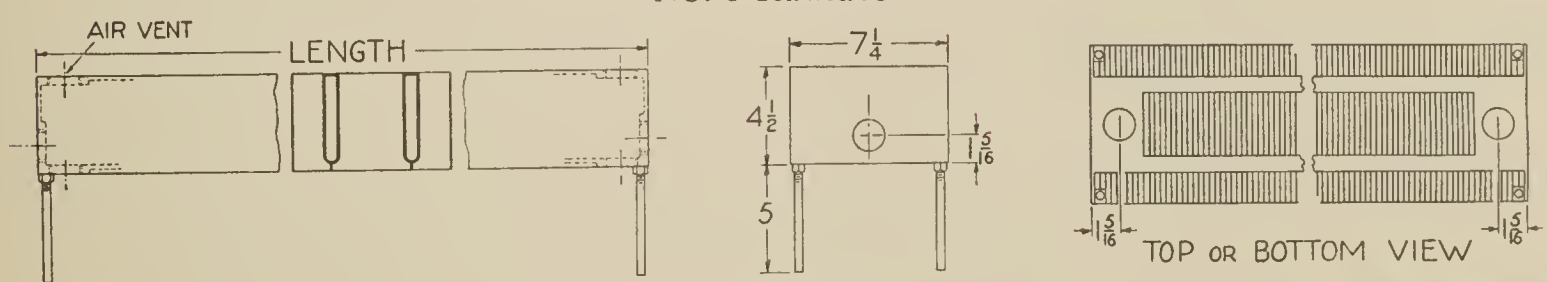
RADIATOR MEASUREMENTS



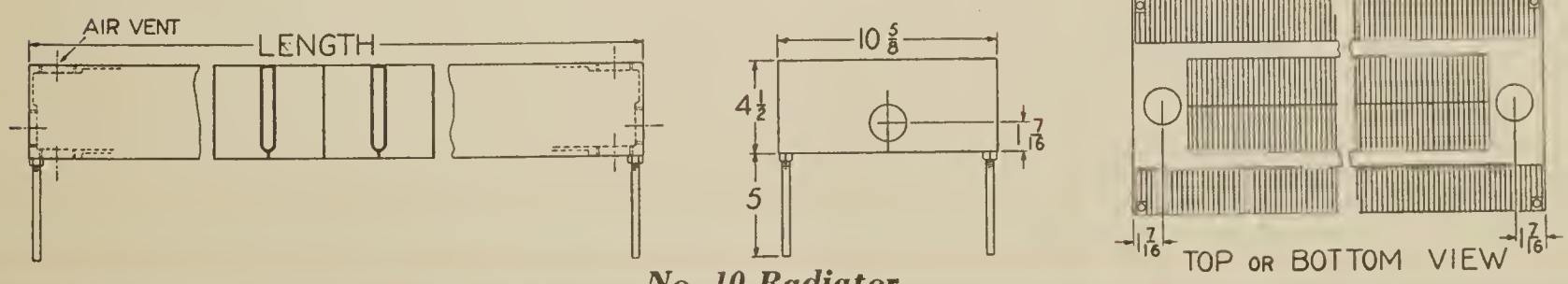
No. 3 Radiator



No. 5 Radiator

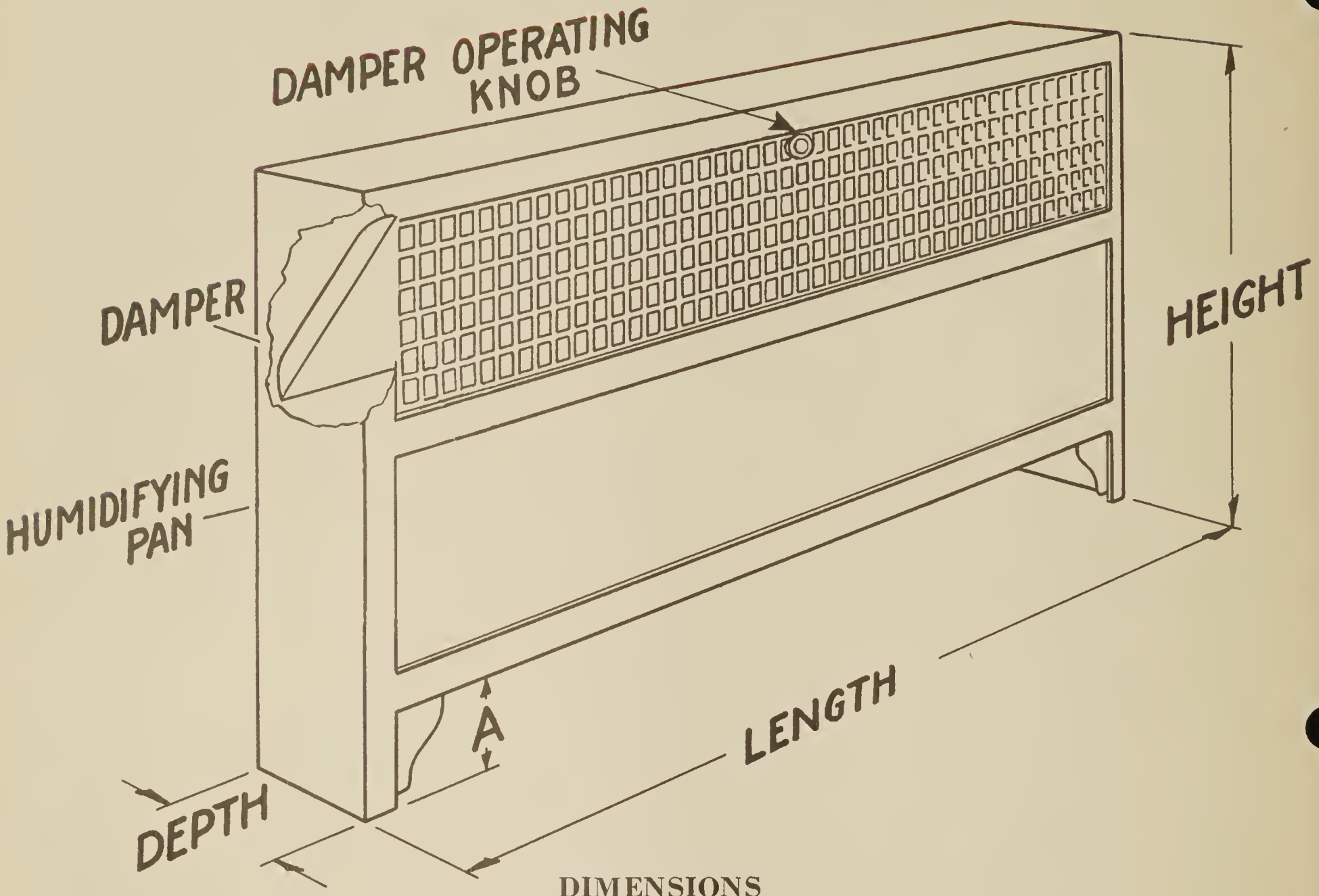


No. 7 Radiator



No. 10 Radiator

STYLE C INCASEMENT AND STYLE R ENCLOSURE



DIMENSIONS

Lengths ①

Recess Length, Style R	19½″	24½″	29½″	34½″	39½″	44½″	49½″	54½″	59½″	64½″
Length, Styles C and R	19″	24″	29″	34″	39″	44″	49″	54″	59″	64″
Radiator Length, Inches—Top or Bottom Connection	18	23	28	33	38	43	48	53	58	63

Heights ②

Recess Height, Style R	20¼″	23¼″	26¼″	30¼″	36¼″
Incasement Height, Style C	20″	23″	26″	30″	36″
Enclosure Height, Style R	20″	23″	26″	30″	36″
Stack Height	14″	17″	20″	24″	30″

Depths ③

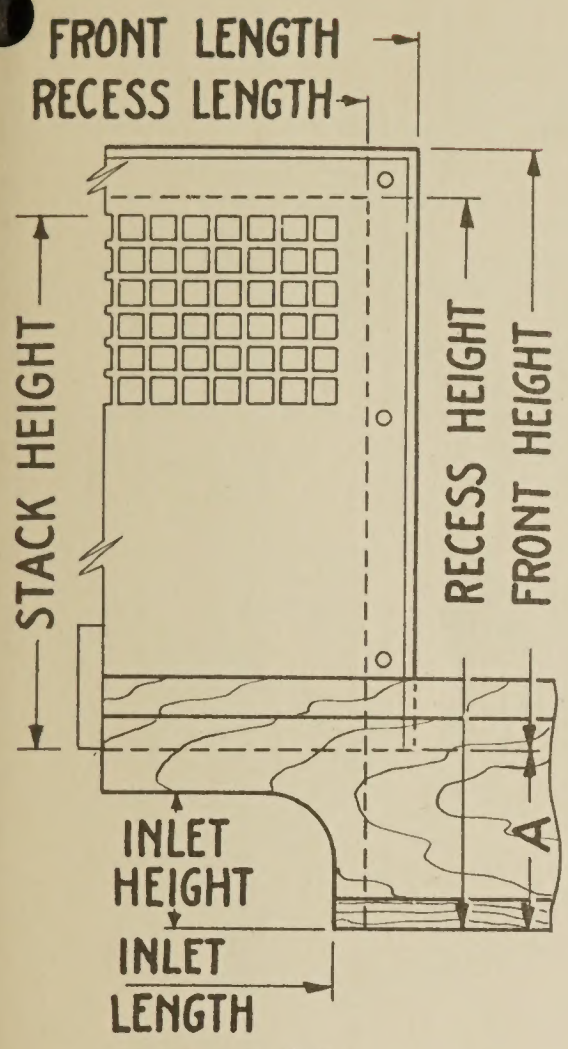
Recess Depth—Style R	4⅛″	6″	7⅞″	11¼″
Incasement Depth, Style C	4″	5⅞″	7¾″	11⅛″
Enclosure Depth, Style R	4″	5⅞″	7¾″	11⅛″
Radiator Depth Number	3	5	7	10

Inlet Heights

Radiator Depth No.	3 and 5	7 and 10
A—Incasement, Style C	3½″	4⅝″
A—Enclosure, Style R	3½″	4⅝″

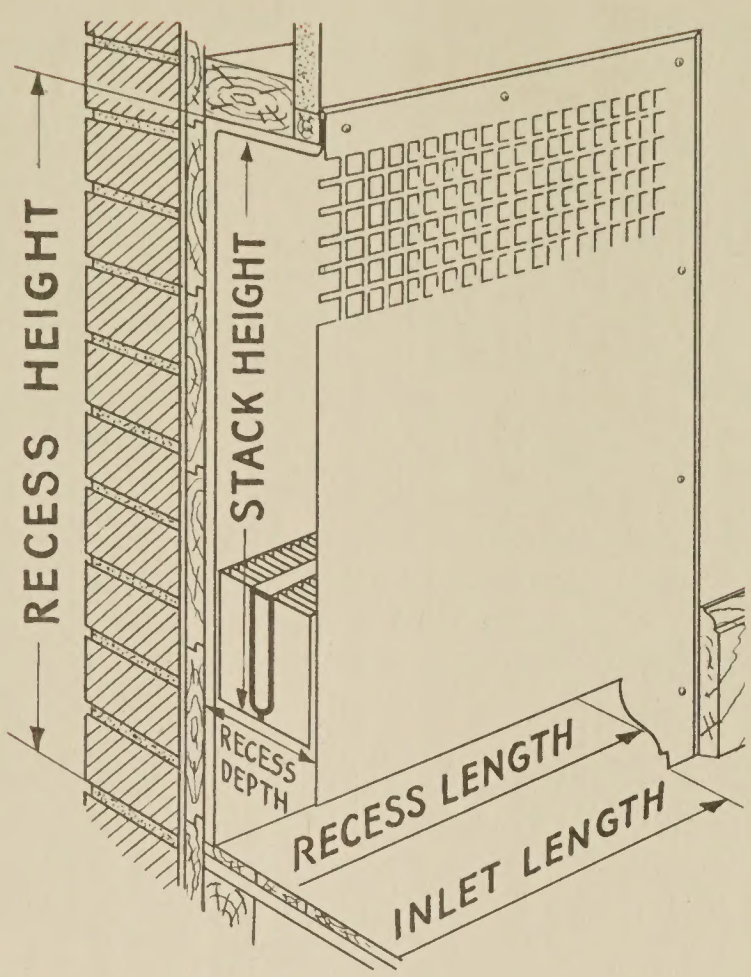
① Incasements and Enclosures may be equipped with dampers.
② An evaporator pan for humidification can be furnished for Incasements and Enclosures in 5, 7 and 10 depths and in 23, 26, 30 and 36 heights.
③ Recess depth is less than Enclosure depth shown when Enclosure projects beyond wall.

STYLE H, HA AND HB ENCLOSURES AND FRONTS



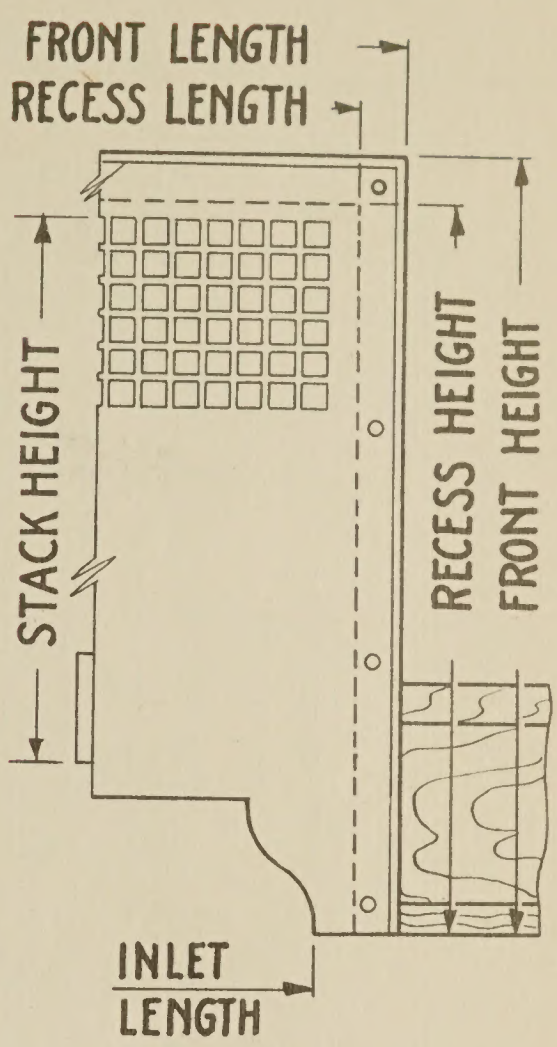
H

FRONT ONLY



HB

FRONT WITH LINER BOX



HA

FRONT ONLY

DIMENSIONS

Lengths

Recess Length, Style HB	**19½″**	**24½″**	**29½″**	**34½″**	**39½″**	**44½″**	**49½″**	**54½″**	**59½″**	**64½″**
Recess Length, Styles H, HA	**19″**	**24″**	**29″**	**34″**	**39″**	**44″**	**49″**	**54″**	**59″**	**64″**
Front Length, Styles H, HA, HB	21¾″	26¾″	31¾″	36¾″	41¾″	46¾″	51¾″	56¾″	61¾″	66¾″
Radiator Length, Inches—Top or Bottom Connection	18	23	28	33	38	43	48	53	58	63

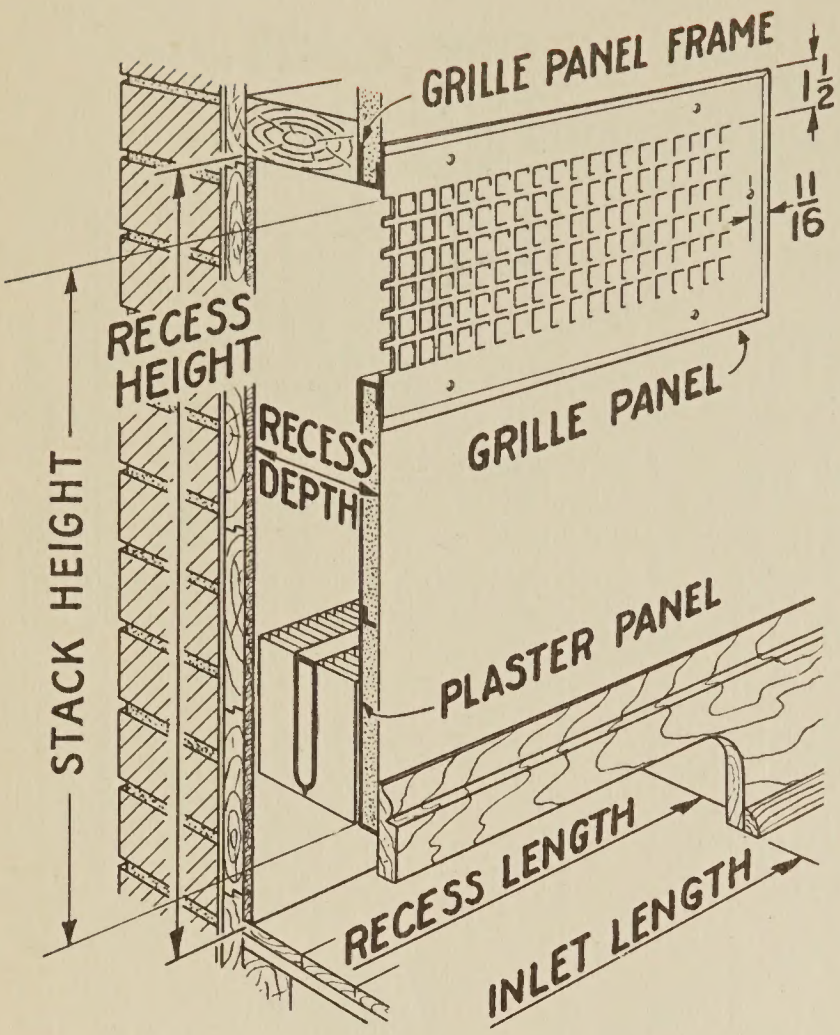
Heights

Recess Height from Finish Floor, Style H, HA, HB	**19½″**	**22½″**	**25½″**	**29½″**
Stack Height	14″	17″	20″	24″
Front Height, Styles HA and HB	20⅞″	23⅞″	26⅞″	30⅞″
Front Height, Style H, Nos. 3 and 5 Radiator Depth	17⅛″	20⅛″	23⅛″	27⅛″
Front Height, Style H, Nos. 7 and 10 Radiator Depth	16″	19″	22″	26″

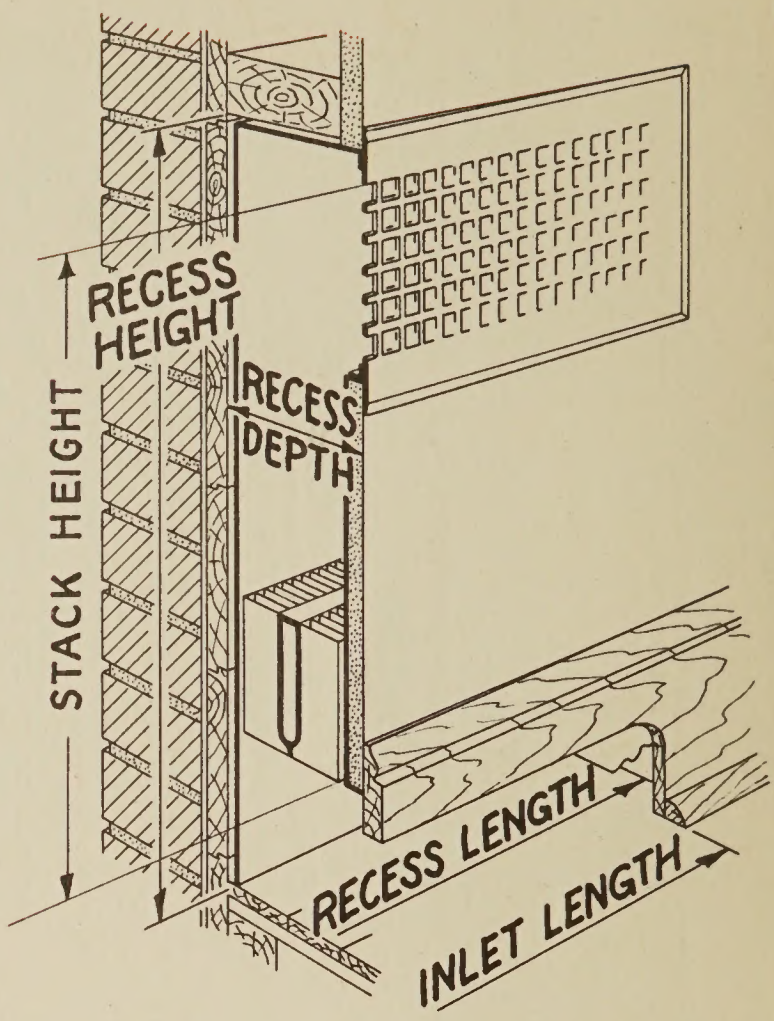
Depths and Inlet Heights

Recess Depth, Style HB	3⅞″	5¾″	7⅝″	11″
Recess Depth, Style H and HA	3¾″	5⅝″	7½″	10⅞″
Radiator Depth Number	3	5	7	10
Inlet Height, Style H	3½″	3½″	4⅝″	4⅝″
Inlet Height, Styles HA and HB	4″	4″	4″	4″
Bottom of Front to Finish Floor (A), Style H	3¾″	3¾″	4⅞″	4⅞″

STYLE L, LP AND LB PLASTER FRONTS AND ENCLOSURES



STYLE LP



STYLE LB

DIMENSIONS

Lengths

Recess Length without Enclosure, LP	19″	24″	29″	34″	39″	44″	49″	54″	59″	64″
Recess Length with Enclosure, LB	19½″	24½″	29½″	34½″	39½″	44½″	49½″	54½″	59½″	64½″
Plaster Panel and Grille Panel Length	20¼″	25¼″	30¼″	35¼″	40¼″	45¼″	50¼″	55¼″	60¼″	65¼″
Grille Panel Frame Length Inside	18⅛″	23⅛″	28⅛″	33⅛″	38⅛″	43⅛″	48⅛″	53⅛″	58⅛″	63⅛″
Inlet Length	14½″	19½″	24½″	29½″	34½″	39½″	44½″	49½″	54½″	59½″
Radiator Length, Inches—Top or Bottom Connection	18″	23″	28″	33″	38″	43″	48″	53″	58″	63″

Heights

Recess Height with Enclosure, LB	23¼″	26¼″	30¼″	36¼″	42¼″	48¼″	54¼″	60¼″	66¼″
Recess Height without Enclosure, LP	22½″	25½″	29½″	35½″	41½″	47½″	53½″	59½″	65½″
Stack Height	17″	20″	24″	30″	36″	42″	48″	54″	60″
Height—Top of Grille Panel to Finished Floor	23½″	26½″	30½″	36½″	42½″	48½″	54½″	60½″	66½″

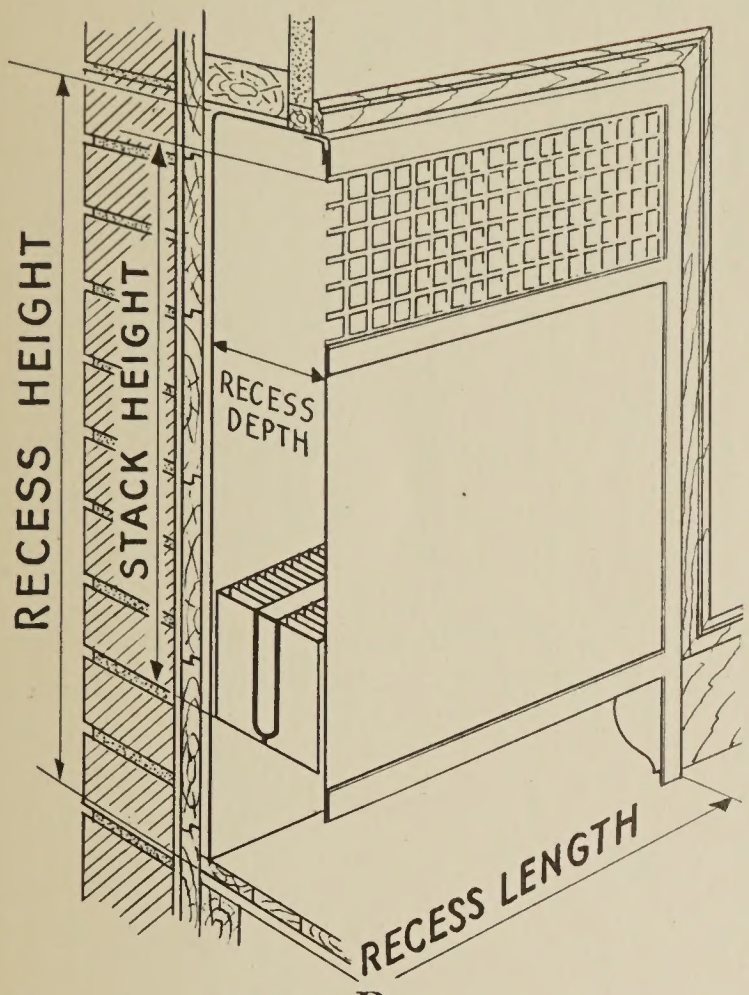
Height Dimensions of Style L Parts

Radiator Depth No.	3 and 5	7 and 10
Grille Panel Height	$7\frac{11}{16}$″	$9\frac{5}{16}$″
Grille Panel Frame Opening Height	$5\frac{7}{16}$″	$7\frac{1}{16}$″
Min. Inlet Height (for wood base board across inlet)	3½″	4⅝″

Depths

Recess Depth from Finished plaster, LB	4¾″	6⅝″	8½″	11⅞″
Radiator Depth Number	3	5	7	10

ILLUSTRATIONS OF TYPICAL *Enclosure* INSTALLATIONS



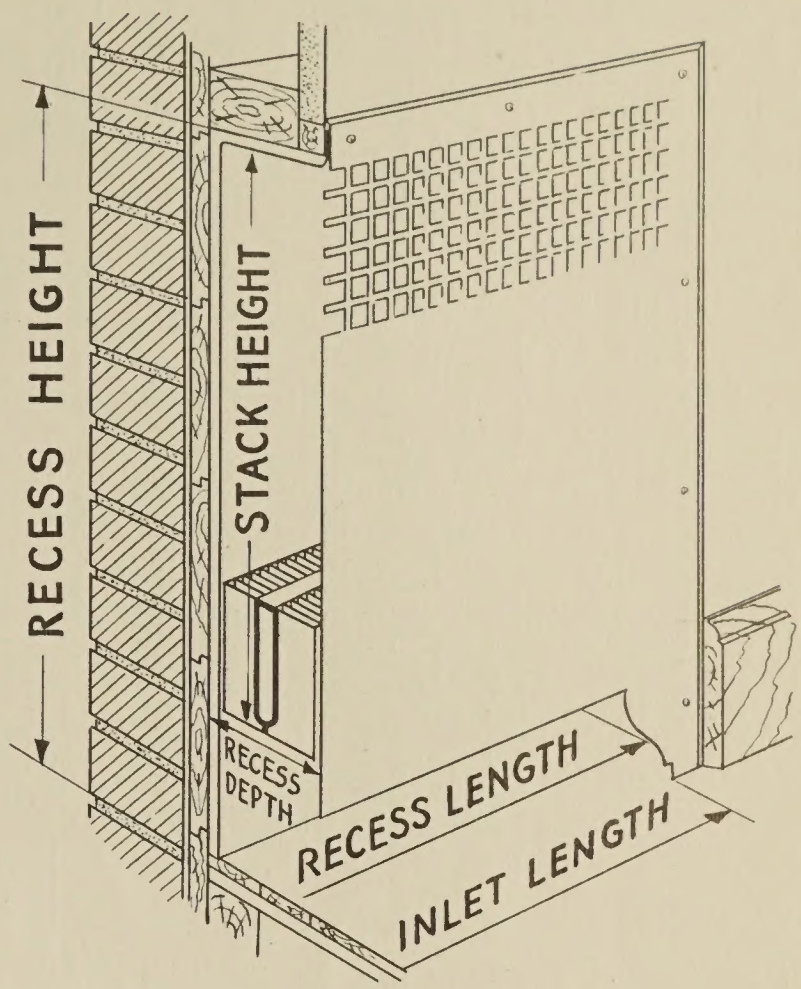
R

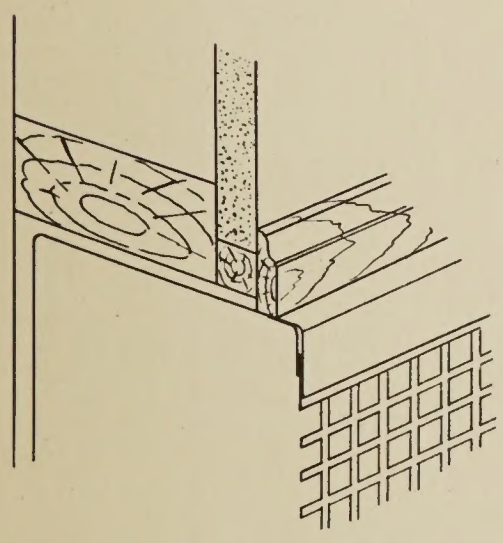
Partially Recessed

At the left, a typical method of treatment showing Style R enclosure partially recessed. The use of the molding strip around the enclosure insures a close fit and eliminates possible separation of plaster from enclosure edges.

If a flush fitting of enclosure front with plaster is desired use Style HB shown at the right.

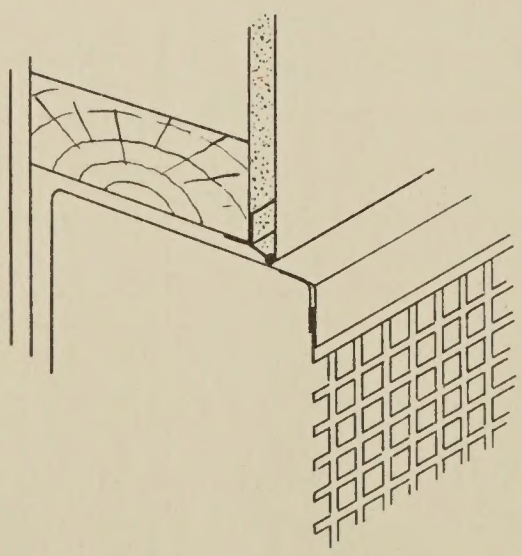
The metal front overlaps the plaster making a very close joint, as shown.

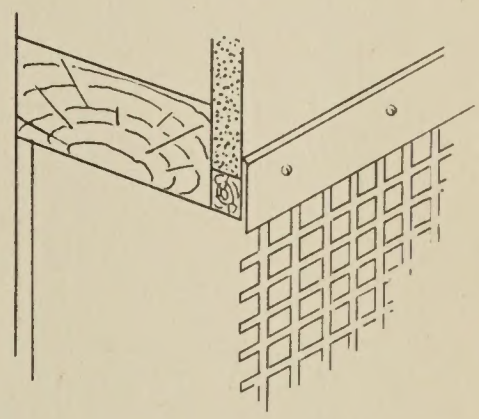




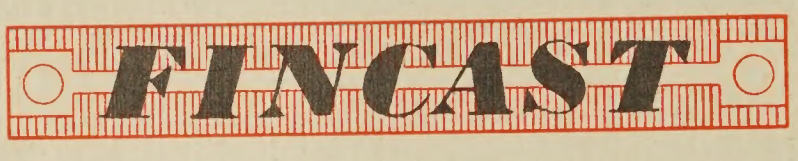
Above is an enlarged portion of a Style R enclosure, partially recessed, showing application of molding strip.

Below is shown another method of installing a Style R enclosure, partially recessed through the use of a plaster corner bead





Above is shown a detail of the method of installing a Style H or HA Metal Front. Note that the front overlaps the finish plaster.



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